The MCI G4500

Back to Basics with Style

by Larry Plachno

Although designed as a Greyhound line haul coach, the G4500 is remarkable in several areas. In size, the G4500 moves up to a length of 45 feet and a width of 102 inches. It is also available with options to turn the basic line haul bus into a stylish tour coach. NBT .

As with many articles that appear in NATIONAL BUS TRADER, this one was prompted by several requests from readers seeking information on the new MCI G4500 model. Our original thought was to call this article "G is for Greyhound." While Greyhound's influence is undeniable, as we went over the coach twice and talked with people from MCI, we decided that title might be inappropriate since the G4500 could easily go beyond being simply a new line haul coach.

We found the G4500 to be fascinating, and one of the more interesting new coaches to show up in many years. It incorporates Greyhound specifications, MCI engineering, and production at MCI's facility in Mexico. An overly simplistic recipe for the G4500 would be to take the tried-and-true D model componentry, add more than a dash of exciting E model styling, and then simplify to meet Greyhound's needs. Our guess is now that the coach is in regular production, other operators will also be interested in this same recipe.

Special Greyhound Models

Over the years, Greyhound has influenced the development of several new bus models. Most have been a step forward for the intercity bus industry in one way or another. In the 1930s, Greyhound worked with the Yellow Coach division of General Motors to develop the 719 and following 743 models. These models effectively moved the industry from the conventional engine-front design to a rear engine V-drive and also moved luggage from the roof to a protected underfloor compartment. The 743 made some strides in air conditioning and introduced a diesel engine.

The noteworthy bus of the 1940s was the Silversides which was modified for Greyhound as the PD3751 and PD4151. Since Greyhound was badly in need of new equipment following the war, these models were more of a refinement rather than new technology. However, they apparently set an all-time bus production record at General Motors in Pontiac, Michigan. Many are still in operation today for private owners.

Greyhound worked with General Motors to develop the PD4501 Scenicruiser in the 1950s. It became an exclusive model for Greyhound and the flagship model of the Greyhound fleet for several years. This same development spawned the PD4104 which ended up in the fleet of almost all commercial bus operators. It introduced air ride and increased the use of power steering and restrooms to the point that it substantially improved the intercity bus industry.

In the 1960s, Greyhound worked with MCI to develop the MC-6. In addition to an improved suspension, it offered the new width of 102 inches and the new length of 40 feet. Unfortunately, the MC-6 was ahead of its time and only 100 were built. However, the improved suspension, width of 102 inches and length of 40 feet would all become industry standards in later years.

No model was specifically identified with Greyhound in the 1970s and 1980s. In those years virtually all of the Greyhound fleet was made up of relatively standard MC-7, MC-8 and MC-9 models from MCI. Individuals who worked for Greyhound during those years still praise the models for doing a good job of meeting Greyhound's needs. It is interesting that for a period of about 20 years, MCI only built one or two models and they were used in all types of service.

With deregulation in 1982, charter and tour operators began to develop different needs and requirements than line haul operators. Greyhound worked with MCI to develop a new line haul coach for the 1990s which was called the MC-12. First built in

1992, the MC-12 was essentially a modernized MC-9. In order to meet Greyhound's needs, it retained a width of 96 inches and a length of 40 feet while the rest of the industry was moving toward 102 inches and 45 feet. The MC-12 did an excellent job of serving Greyhound's needs, but only a few were built for other owners.

Developing and Testing the G Model

MCI and Greyhound had already started to talk about a new model in May of 1996. By the time the last MC-12 coach rolled down the MCI assembly line in June of 1999 developments were well underway. Greyhound had tried other models, including the MCI 102DL3 (now D4500), with some success but wanted something more attuned to their needs. The result was a meeting of the minds with Floyd Holland heading the Greyhound operating and maintenance team out of Dallas, Texas, and Virgil Hoogestraat heading the MCI engineering team out of Roswell, New Mexico.

Here is a portion of the team responsible for developing the G4500. From left to right are Virgil Hoogestraat, MCI director of engineering; Floyd Holland, Greyhound senior vice president of operations; Craig Lentzsch, Greyhound president and chief executive officer; Peter Palladino, MCI vice president of major accounts; and Juan Jose Garcia, MCI executive director of materials. MCI.

Greyhound initially wanted something simple such as the MC-9 with durability and low operating costs. However, as the development process went on, appearance and styling become more and more of a factor. Virgil Hoogestraat and the MCI engineers effectively started off with componentry and systems similar to the D model because of its durability, reliability, and low operating cost. These were simplified in many areas for Greyhound including a fixed tag axle and a simplified engine cooling system. In some areas the MCI engineers improved on the D model such as increased stainless steel and the "filter minder" and other gauges, sensors and maintenance-friendly design of the engine compartment.

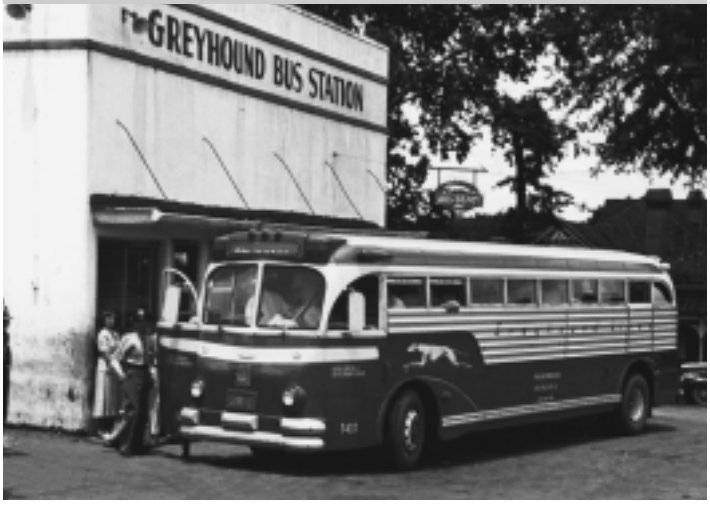
To this was added some of the styling of the E model. However, even the styling was tempered to suit a line haul coach with less curvature on the entry steps and a less ostentatious window arrangement. It was also decided to manufacture the coach at MCI's facility in Mexico.

An initial decision was made to produce 25 coaches and test them in actual service before starting regular production. Since Greyhound was initially interested in a 41-foot coach, all of these test coaches were built as model G4100. Seventeen of them went to Greyhound for testing while the remainder went to other carriers including Coach USA, Academy, Martz, Peter Pan and Van Galder.

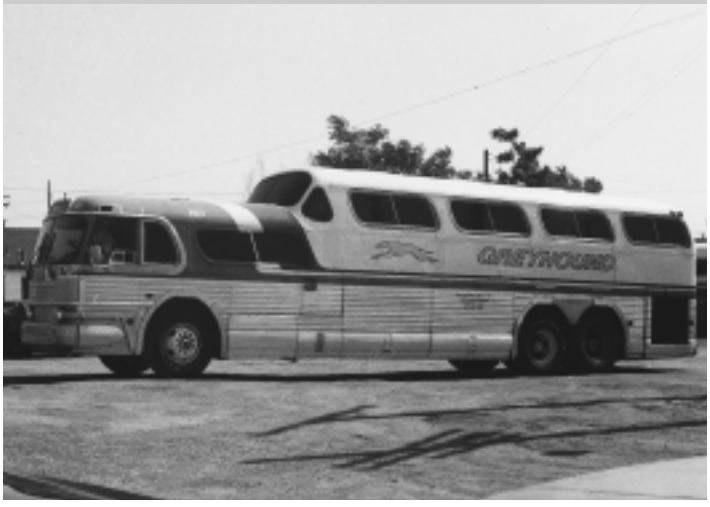
Greyhound ran their field test coaches more than two million miles, an average of 130,000 miles per coach. They experienced no power train failures and no brake relines. Two things resulted from this test. One was that MCI and Greyhound developed a punch list of additional improvements and changes to the coach prior to putting it into production. The second was that Greyhound elected to go with a 45-foot length once the coach entered regular production. As a result, manufacturing will be concentrated on the G4500 model going forward.

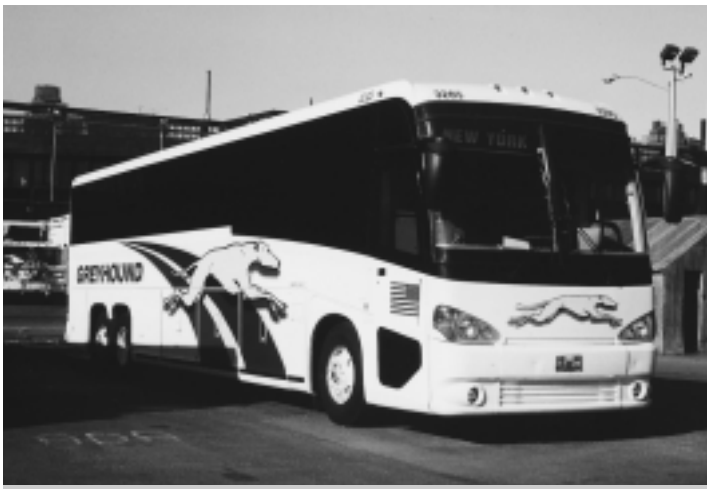
The G4100 coaches performed beyond expectations during these extensive real-world field tests in 2000. The other carrier test coaches averaged 100,000 miles, although, the Van Galder unit regularly turned in 900 miles daily on the Madison-O'Hare run. In reporting on the tests, MCI's Mitch Guralnick said that the G4100 coaches showed an eight to 10 percent increase in fuel economy. Customer appeal was excel-

Built primarily for Greyhound during the late 1930s, the 719 and 743 Yellow Coach models introduced rear engines, underfloor luggage compartments, air conditioning and a diesel engine. This example was photographed at the bus station in Opelika, Alabama. P. LEIGER COLLECTION.



The legendary Scenicruiser appeared in 1954 and served as the flagship of the Greyhound fleet for many years. It introduced the 40-foot coach length to American highways and with the PD4014 made restrooms, power steering and air ride popular. FRED RAYMAN.





A total of 25 model G4100 coaches were built and tested in actual service before production was started. This G4100 was photographed in the Greyhound lot on 30th Street at 12th Avenue in New York City. J.C. REBIS JR.

The G4500 made its official debut on May 24, 2001, in Dallas. Floyd Holland was recognized for his efforts in developing and working on the G model project. The first coach was lettered "Floyd Holland Edition." MCI.

lent considering the outstanding ride and attractive frameless windows. There were only two tire failures during the test and one shut down, that because of an air dryer.

Regular production of the G4500 started in Sahagun, Mexico, in late March of 2001. Twenty coaches were built for Sita, a Greyhound US / Mexico operating partner, and then, the line switched over to producing coaches for Greyhound. Twenty-five G4500 coaches were delivered to Greyhound starting in May and another 101 are expected to be delivered to Greyhound by November of 2001.

The first of the G4500 coaches was presented to the public by Greyhound at a special ceremony in Dallas on May 24, 2001. In recognition of his efforts in working on the G model project, the first G4500 was lettered "Floyd Holland Edition." Floyd started his bus career in 1958 when he became a ticket agent and part-time bus driver for Trailways. By the time of the 1987 merger of Trailways with Greyhound, Holland had moved up to the position of vice president of operations and transportation. Today, Holland is Greyhound's vice president of fleet operations.

G4500 Details

Like all the past historical MCI / Greyhound joint coach design efforts, the G4500 is posed to again raise the industry bar. In common with the other MCI coaches, the G4500 is true integral construction, but a slightly different process is used than on the Winnipeg-built MCI coaches. Production in Winnipeg historically uses a unique procedure originally developed by MCI founder Harry Zoltok which involves joining a bottom section and a top section to make one coach frame. The Sahagun plant uses the more traditional procedure of assembling a single "bird cage" frame structure in a jig. However, we note that there is more stainless steel in the G model than in the D which uses Cor-Ten steel from the floor up while the G4500 frame is all stainless steel.

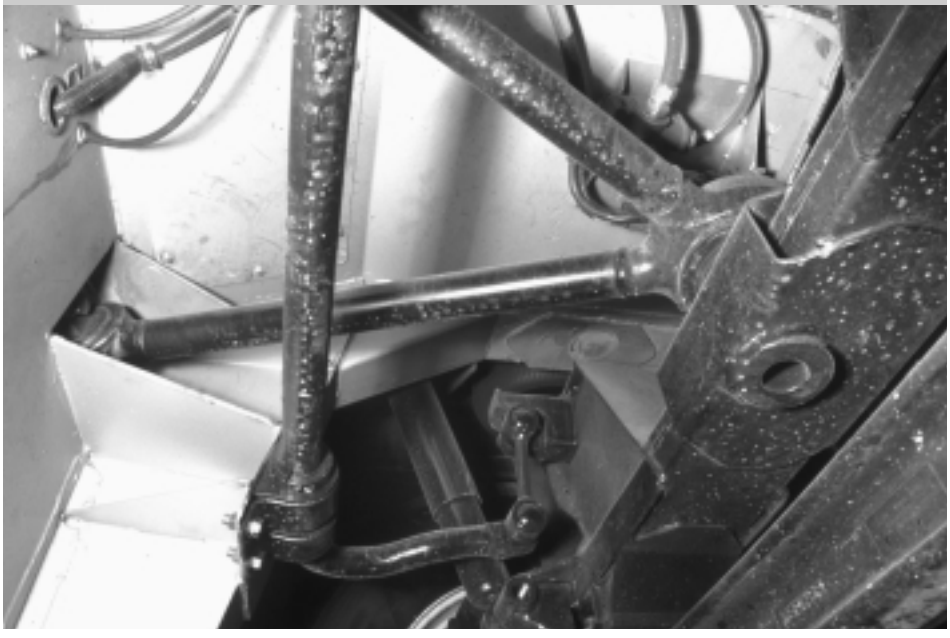
Dimensions of the G4500 are fairly standard. The overall length is 45.70 feet. The width is the expected 102 inches. The overall exterior height is 138 inches – 11.5 feet. The G4500 can easily drive under a 12-foot door.

The wheelbase on the G4500 is 331 inches. While the D4500 uses a steerable tag axle, the G4500 uses conventional, independent, swing arms such as on the D4000 design. While the G4500 does not have a steerable tag axle, it does have slightly more front overhang. In addition, the steering wheels on the G4500 turn slightly more than on the D4500. As a result, the turning radius on the G4500 is comparable to the D4500. This has been confirmed by both actual measurements as well as by driver comments. Either Meritor or Dana axles are available. Greyhound went with Dana because they expect better brake life and a lower cost of brake repairs. All of the brake drums are standardized at 16.5 inches.

A new suspension system was developed for the G4500. Instead of a stabilizer bar, it has a wishbone arrangement to provide stability. Air ride suspension is used, but it has been improved with the air bags way outboard. For increased stability, the front bellows are canted in. The tag axle can be unloaded from the driver's cockpit area and a kneeling feature is provided on the front axle.

Stainless steel is used in the wheel wells. Greyhound expectedly opted for the 9-inch stud-mounted steel wheels, but hub-mounted steel and aluminum wheels are

Several of the improvements found on the G4500 are in locations where they are not easily seen. This photo looks upward from a pit to the bottom of the coach and shows a portion of the vastly improved suspension system. Major modifications include this wishbone arrangement replacing the stabilizer bar and outboard air bags which are canted in. MCI PHOTO BY JOHN MERKLE.



also available. After extensive field testing, Greyhound is now using a new Goodyear tire with wider tread.

The best description I have yet heard for the exterior of the G4500 called it a "bread and butter E." There is a strong resemblance to MCI's top-of-the-line E4500, and someone not familiar with small variations could easily confuse the two models. The easiest way to tell the G4500 from the front is its headlight groupings slant up at the sides of the coach, and the running lights under the bumper are far outboard. In comparison, the E4500 and J4500 have horizontal headlight groupings and running lights below the bumper which are located closer to the center. From the side, the first passenger window on the E4500 and J4500 is large and one piece. On the G4500, there is a standard passenger window with a small triangular window below it.

One of the more unique features of the G4500 is the dimple or bow in the sides below the windows which may not be obvious at a distance. This feature aerodynamically channels air to reduce road dirt and rain water on the windows. Bus washers commented favorably on this feature during last year's tests. Frameless windows are used similar to most of the newer models. All passenger windows are tempered safety glass, thermo pane and double glazed.

While the G4500 has essentially the same overall height as the D4500, the interior is allocated differently because of the emphasis on scheduled service. The floor is slightly higher, which results in a lower interior height of 76 inches on the G4500 than the 78 inches on the D4500. However, this does give the G4500 a larger underfloor capacity of 440 cubic feet with the D4500 having 400 cubic feet. Moreover, the underfloor luggage space on the G4500 is open with no compartment partitions as on the D, E, J and earlier MCI models. The luggage compartment floor is now flat instead of corrugated and there is a water drain at the edge.

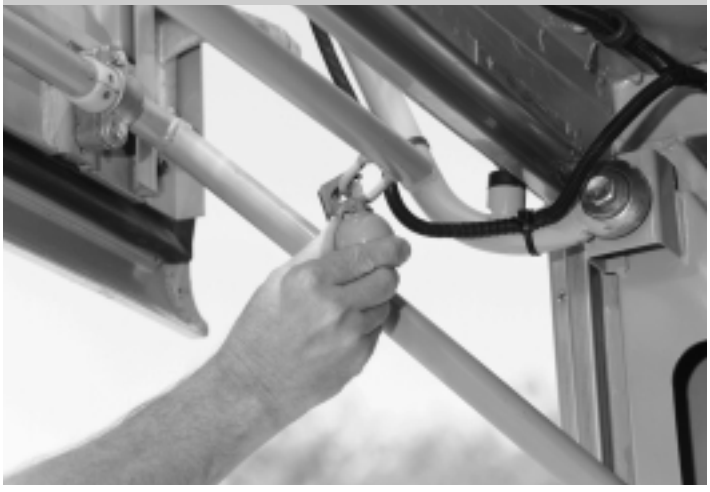
If you look carefully just below the windows, you can see the dimple or bow in the side of the coach which aerodynamically channels road grease and dirt away from the passenger windows. The underfloor luggage compartment is much more open than previous MCI models and offers an impressive 440 cubic feet of storage space. NBT.

Standard baggage doors are locked with a key, although, an electric lock is optional. All compartment doors now have mechanical arms with no gas cylinders for lower maintenance costs and higher reliability. There is a lock to hold the baggage compartment doors open and prevent them from falling while luggage is being loaded and unloaded. A yellow knob at the upper left behind the door releases the lock. It will be interesting to find out whether drivers remember to release the lock before tugging down on the door.

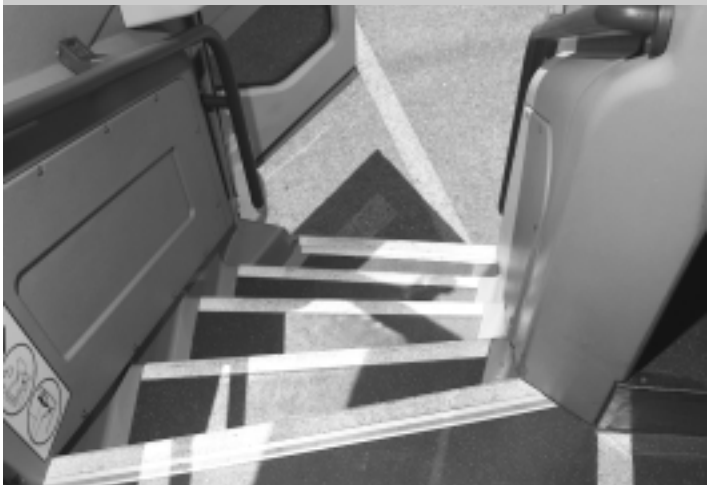
There are portions of the coach which are not substantially changed from previous models. As with past models, there still is a central control tunnel under the floor at the top of the luggage compartments. In addition, you will still find the spare tire behind the front bumper and washer fluid inside the door under the driver. However, rubber bumpers have been replaced with composite material, and the fuel tank has been moved slightly to make room for the wheelchair door. The G4500 has one large fuel tank that holds 228 useable gallons and can be filled from both sides.

All exterior lights are modernized LED type except for the headlights. The inside blue aisle lights are also LED. Daytime running lights (DRL) are provided. The skirt covering the top of the two rear wheels comes off for easy maintenance. There are also 110 volt plugs front and rear for plug-

Mechanical arms replace gas cylinders on compartment doors to reduce maintenance costs. This little yellow knob locks the compartment door in the open position to prevent its closing on luggage or a driver's hand. MCI PHOTO BY JOHN MERKLE.



The passenger entryway on the G4500 is tapered but does not curve as much as on the E4500. The door is held at three locations to provide a good seal, and the door itself has more glass with a larger lower window. MCI PHOTO BY JOHN MERKLE.



ging in the interior lights for cleaning the coach in terminals.

Several changes have been made in the front door and driver's area. An electric over air system is used for opening and closing the entrance door. Now there are three holders to provide a good door seal while driving including a wedge at the top and the traditional "grabber" on the opening side. There is more glass in the door including a larger lower door window. The passenger entryway is tapered, but not quite as circular as on the E4500. It has RCA rubber flooring with white nosing for cleanability. To comply with ADA requirements, the stairs have an equal shorter riser height and tread depth and a 30-inch clear opening width. A removable curtain type destination sign is provided.

The driver's cockpit looks very modern. Right (aisle) side controls have been eliminated and the air brake button has followed the transmission controls and is now on the left side adjacent to the window. I got the impression that the dash was lower, giving the driver a much better view of the road ahead. The dash itself consists of a multiplexed center section with lights and gauges plus a squared-off wing on each side with rocker switches, radio controls, etc. The radio now includes a single disc CD player and cruise controls are incorporated into the steering wheel. Manual blinds and a sun screen are provided which are similar to the D4500.

There is an acrylic panel behind the driver with a dark, smoke tint, so a roller curtain is no longer necessary. For safety and convenience, an overhead handrail is built into the parcel racks for passengers to grab onto while walking up and down the aisle. Greyhound has open parcel racks, but closed parcel racks are optionally available. Reading lights are positioned under the parcel rack and 14 speakers are positioned facing the windows. The back wall of the coach is carpeted. Greyhound is using Amaya seats, but the G4500 can be ordered with seats from other manufacturers.

The restroom is provided with a push-in bi-fold door. As has been traditional, the door lock turns on a light. There is no sink, but a dispenser with handi-wipes is on the wall. In keeping with Greyhound tradition, there is a dispenser for small tissues instead of toilet paper rolls. It is interesting that a trash receptacle is located just forward of the restroom and behind the last seat. This uses the same container as the restroom trash.

A Stewart and Stevenson bay lift is mounted outside the baggage compartment on the G4500. The installation is similar to the E4500 and J4500, but a sliding side door is provided similar to that on the D4500 (see the article on the D4500 in NATIONAL BUS TRADER, June, 2001). Like the D4500, seats are on tracks and easily released and moved to make way for a wheelchair. Belts for securing the wheelchair are mounted to the seat frames and are very easy to use. No more loose belts to get lost, plus wet mopping the floor in the tie down area is much easier.

The driver's area is open and offers a good view of the road. In the center of the dash is a multiplexed section with lights and gauges while rocker switches are used on the side panels. Transmission and parking brake buttons are on the left. MCI PHOTO BY JOHN MERKLE.

Located in the usual right rear of the coach, the restroom is entered through a bi-fold door. Noteworthy is this trash receptacle located just forward of the restroom. Greyhound continues to use small tissues instead of paper rolls. MCI PHOTO BY JOHN MERKLE.

Take a look in the engine compartment and you will find a 400 horsepower Detroit Diesel Series 60 engine with a six-cylinder Jake Brake, which is coupled to an Allison B500 automatic transmission. If you take a few minutes to poke around back here, you might find a few interesting items. One of the most obvious is some of the markings are in Spanish instead of English, French, German or Flemish.

Next, it becomes apparent that Floyd Holland and the boys at Greyhound are turning the engine compartment into a mechanic's dream. Just bring that bus into the garage after a run, pop open the engine compartment doors, and a mechanic can check fluid levels and the status of several components in a matter of minutes. Easy to

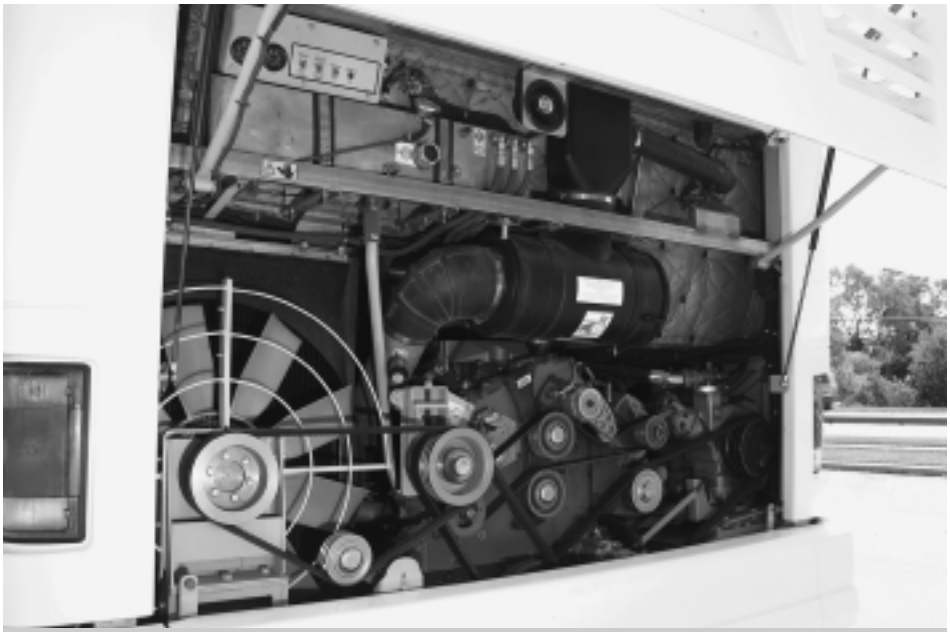
The G4500 comes with a Stewart and Stevenson bay lift and is installed similar to the lifts on the E4500 and J4500 models. However, a sliding door is used similar to that found on the D4500. Passenger seats are mounted on tracks and are easily moved. Belts for securing the wheelchair are mounted to the seat frames and are easy to use. NBT.

find is the power steering fluid visual check. There are "filter minder" plastic sensor gauges on both the Donaldson air filter and the Detroit Diesel Fuel Pro fuel filter so you know when it is time to replace this filter. Moreover, the Fuel Pro filter will not lose prime when being changed. The air dryer is mounted in the engine compartment instead of on the front bulkhead as on previous MCI models.

Some recent model MCI coaches have their engine coolant filler at the lower right (curb) side of the engine compartment where a small pump carries the fluid up into the cooling system. On the G4500, the engine coolant filler is at the top of the engine compartment door. Filling it requires either an NBA basketball player or a small step ladder, but it surely is a simple system with less to go wrong.

Greyhound opted to stay with the one large 50DN oil cooled alternator with the new #6 vent line rather than smaller dual alternators. Turnbuckle mechanical tension is used on the A / C compressor and other engine belts. Again, this provides a simpler system with less to go wrong. There is no miter box on the fan which comes with Linnig clutches and is located at the bottom left of the engine compartment. Greyhound specified the Linnig clutches because their studies showed them to be more reliable.

Recent SAE standard certified tests have shown that the G4500 has an eight to 10 percent fuel economy improvement. Greyhound expects to save millions of dollars in fuel running this new MCI. This is attributable to several factors including aerodynamics, the absence of a miter box for the fan, and substantially less weight.



While the Series 60 engine is somewhat traditional, there are numerous changes and improvements in the engine compartment. Linnig clutches are used instead of a miter box on the fan. In addition, checking filters is greatly simplified with filter minder sensor gauges. The engine coolant filler is located at the top of the compartment – follow the overflow line up to the cap. MCI PHOTO BY JOHN MERKLE.

Electrical junction boxes are located below the driver's window and at the rear of the luggage compartment. The battery box is located on the right side in front of the drive axle and includes a slide-out battery tray. There is now a light in the battery compartment. A Vanner equalizer is provided for foolproof 12- and 24-volt usage.

While a Carrier air conditioning system is available, MCI is providing a Thermo King A / C system as standard. The Thermo King system uses five fans on brushless motors, an angle mounted condenser, and a larger evaporator for unrivaled A / C performance which is confirmed by certified A / C tests. The driver's A / C system is completely mounted under the floor with a variable-speed control.

One individual reported that at 700 rpm, the fans for the A / C system are "powerful enough to part your hair." However, the new system is both quieter and more efficient with up to a half-ton more cooling. The condenser is further back and tilted for better draining. There are no fans blowing down to kick up dust and road debris. The driver's evaporator is under the floor behind the driver. This is also quieter and more efficient.

The 25-coach, 18-month, more than three million-mile field trials and tests last year were primarily geared toward line haul operations. Due to its exquisite styling and outstanding curb appeal, MCI began getting inquiries and a great deal of feed back on the possibility of using the G4500 for charter and tour service. While the G4500 does not have the same technology, systems and amenities that you may find on MCI's top-of-the-line E4500, it could be an economical and viable charter and tour coach for many operators. As a result, MCI developed the Premium Comfort Group option for the G4500. This includes enclosed parcel racks, a video system, an AM / FM radio with CD player, fabric everywhere and pull-down blinds. This in turn has led to the new sales motto for the G4500 – Back to Basics with Style.

For more information on the G4500 contact your MCI representative or visit the MCI Web site at www.mcicoach.com. ❑

Greyhound has open luggage compartments and Amaya seats which give the interior a typical line haul appearance, albeit more modern than previous models. However, options are available for other seats, enclosed parcel racks, a video system and other amenities to turn the coach into a stylish tour vehicle. MCI PHOTO BY JOHN MERKLE.

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